

Please add the following new claims:

(B) 26. (New) The substrate according to claim 8, wherein the optical active element is selected from the group consisting of a foil, a hologram and a kinegram.

#### REMARKS

Claims 1-26 are active in the present application. Claims 4 and 8 have been amended. Claim 26 is a new claim. Support for the new claim is found in original Claim 8. No new matter is added.

#### REQUEST FOR RECONSIDERATION

Applicants note that the present application is a continuation application claiming full benefit under 35 U.S.C. §120 of the filing date of international application PCT/NL99/00220 filed April 15, 1999. The effective filing date of the present U.S. application is therefore April 15, 1999. Applicants claim right to priority under 35 U.S.C. §119 of an application filed in the Netherlands on April 20, 1998 (NL 1008929). Applicants perfect their claim to priority by submitting herewith a certified translation of the priority document. Applicants have antedated the Lazzerini reference and removed the reference as prior art thereby effectively rendering the rejections moot.

Regardless of the removal of the Lazzerini reference as prior art to the claimed invention, Applicants submit that the prior art references relied upon by the Examiner do not render the present invention obvious. Arguments in support of unobviousness follow.

Applicants thank Examiner Fureman for the helpful and courteous personal interview with Applicants' U.S. representative on August 7, 2002. Applicants further thank the Examiner for acknowledging receipt of the preliminary amendment and consideration of the Information Disclosure Statement filed on October 20, 2000.

verified 9/15 11/1/2007

During the personal interview the patentability of the presently claimed invention was discussed with regard to the unobviousness of incorporating an integrated circuit onto a paper substrate such as currency. The Examiner compared the presently claimed substrate to substrates containing magnetic security strips. Applicants' U.S. representative presented arguments that the presently claimed integrated circuit-containing substrate is no more obvious in view of a paper substrate containing a magnetically coded security strip than a smart card is obvious in view of a metro ticket.

In the presently claimed invention a substrate is provided with an integrated circuit. The substrate is made of paper (such as paper currency). The integrated circuit may contain coded information which helps to identify the authenticity, origin and/or uniqueness etc. of the substrate. The integrated circuit is flexible and comprises a *semiconductive* organic polymer (see Claim 1). The semiconducting polymer is advantageous since it is flexible, inexpensive and is able to withstand the abuse that paper currency is subjected to. In contrast to the claimed invention, the cited prior art describes an invention wherein a *magnetically coded* security strip is incorporated upon or within a paper document.

The integrated circuit of the presently claimed invention provides advantages over the magnetically coded security strip of the prior art. For example, the integrated circuit can be changeably programmed and may even be programmed with an electronic verification key. Additionally, the information coded in the integrated circuit may be accessed inductively without direct contact with the reading device.

In the Office Action the present claims were rejected as obvious in view of the combination of Lazzerini (U.S. Patent 6,126,076) and Brown (*Science*, Vol. 270, November 10, 1995, pp. 972-974). Applicants traverse the rejection ~~in~~ on the grounds that (i) the Office has improperly used hindsight to support the assertion that the presently claimed invention is obvious and (ii) the Office has not provided motivation to combine the cited art.

The Office has not provided any examples of paper substrates containing conventional silicon-based integrated circuits nor has the Office presented any examples of polymer-based integrated circuits on paper substrates. The only evidence of record that a polymer-containing integrated circuit can be combined with a paper substrate is the disclosure in the present application. By using the disclosure of the present application as a template (i.e, the disclosure that polymer-containing integrated circuits can be combined with paper substrates), the Office has improperly used hindsight in determining that a paper substrate with an organic polymer-containing integrated circuit is obvious (see MPEP §2145 (X)(A)). How could one know that it was possible, much less desirable, to place a polymer-containing integrated circuit on a paper substrate unless one had read the disclosure of the present application first?

Applicants submit that paper substrates containing polymer-based integrated circuits are not obvious in view of rigid or semi-rigid substrates containing silicon-based integrated circuits (i.e., smart cards).

Applicants further traverse the rejection on the basis that the Office has provided no motivation for combining the references or for substituting the magnetically coded security strip of Lazzerini with the integrated circuit of Brown.

By combining the Lazzerini patent with the publication to Brown the Office has attempted to assemble the elements of a hypothetical paper substrate containing an integrated circuit. The Brown document describes the preparation and structure of semiconducting transistor devices upon plastic or silicon. There is no disclosure or suggestion in the Brown reference that the prior art semiconductor devices can be used on paper substrates. The Lazzerini patent makes no mention that an integrated circuit can be used in place of a magnetically coded security strip.

A semiconductor device (integrated circuit) is not the same as a magnetically coded security strip. Magnetic codes are readable in magnetic fields whereas the coded information in an integrated circuit is inductively or capacitively readable. The Lazzerini patent discloses that the security strip is provided with *magnetic information* (see Claim 1; column 1, lines 38-40; column 1, lines 60-61; and column 2, lines 17-22). In contrast, the presently claimed invention stores information in the semi-conducting circuitry of a polymer-containing integrated circuit (page 2, lines 8-10).

Moreover, the dimensional characteristics of the Lazzerini security strip would lead one to believe that the integrated circuit of Brown would not be of the appropriate size for a paper substrate in view of the Lazzerini disclosure. The Lazzerini patent calls for a continuous polyester strip from 1 to 2 mm wide (column 2, lines 15-16). Brown describes a discreet device whose logic gates are arranged 1 mm apart (page 973, column 2, lines 2-3). Since it takes many logic gates to build a workable integrated circuit the Brown device is expected to be substantially larger than the Lazzerini security strip. Further, the Brown integrated circuit is essentially a two dimensional feature whereas the Lazzerini strip is essentially a one dimensional feature (i.e., continuous thin filament).

Thus the Office has provided no motivation to combine the cited references. In the absence of such motivation the presently claimed invention cannot be obvious. See MPEP §2143.01 and In re Lee 61 USPQ2d 1430, at 1434 (CAFC 2002) (copy attached) quoted respectively below:

"The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based upon a prima facie case of obviousness was held improper."

"teachings of references can be combined only if there is some suggestion or motivation to do so."

Applicants submit that the Office has not provided sufficient motivation to combine the Lazzerini and Brown disclosures and the rejection of the presently claimed invention as obvious is therefor inappropriate and should be withdrawn.

During the personal interview the Examiner stated that the combination of the Lazzerini and Brown disclosures was appropriate since the presently-claimed invention was a "natural progression" or an "evolution" of paper currency (i.e., evolution from magnetically coded security information to security information stored on an integrated circuit) and was similar to the natural progression of development in credit cards which initially started as simple embossed cards, then contained magnetic strips and eventually became smart cards containing integrated circuits.

The vast majority of inventions involve the natural progression and evolution of technology. The Office's support of the obviousness rejection is inappropriate and ignores the basic fact that technology progresses in parallel paths across many disciplines and applications. Novel applications are not necessarily obvious in view of the preceding technological advances in other applications. The presently claimed invention is not obvious in view of the "natural progression" of technology.

Applicants submit the amendment to the claims places all claims in condition for allowance. Applicants respectfully request the withdrawal of the outstanding rejections and the passage of all now pending claims to Issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



Norman F. Oblon  
Attorney of Record  
Registration No. 24,618

Stefan U. Koschmieder, Ph.D.  
Registration No. 50,238



**22850**

(703) 413-3000  
Fax #: (703) 413-2220  
SUKOS/rac  
I:\atty\SUKOS\198707US-AM.wpd



In re Lee, 61 USPQ2d 1430 (CA FC 2002)

**61 USPQ2D 1430**

**In re Lee**

**U.S. Court of Appeals Federal Circuit**

**No. 00-1158**

**Decided January 18, 2002**

### **Headnotes**

#### **PATENTS**

**[1] Practice and procedure in Patent and Trademark Office —Board of Patent Appeals and Interferences — In general (§110.1101)**

**Patentability/Validity — Obviousness — Combining references (§115.0905)**

**Patentability/Validity — Obviousness — Evidence of (§115.0906)**

Rejection of patent application for obviousness under 35 U.S.C. §103 must be based on evidence comprehended by language of that section, and search for and analysis of prior art includes evidence relevant to finding of whether there is teaching, motivation, or suggestion to select and combine references relied on as evidence of obviousness; factual inquiry whether to combine references must be thorough and searching, based on objective evidence of record, and Board of Patent Appeals and Interferences must explain reasons why one of ordinary skill in art would have been motivated to select references and to combine them to render claimed invention obvious.

**[2] Patentability/Validity — Obviousness — Combining references (§115.0905)**

#### **JUDICIAL PRACTICE AND PROCEDURE**

**Procedure — Judicial review — Standard of review — Patents (§410.4607.09)**

Board of Patent Appeals and Interferences improperly relied upon “common knowledge and common sense” of person of ordinary skill in art to find invention of patent application obvious over combination of two prior art references, since factual question of motivation to select and combine references is material to patentability, and could not be resolved on subjective belief and unknown authority, since deferential review of agency decisions under Administrative Procedure Act reinforces obligation of board to develop evidentiary basis for its findings, since board's rejection of need for any specific hint or suggestion in particular reference to support combination constituted omission of relevant factor required by precedent, and thus was both legal error and arbitrary agency action, since board's findings must extend to all material facts and be documented on record, and since “common knowledge and common sense” are not specialized knowledge and expertise of agency contemplated by APA, and may not be substituted for evidence, although they may be applied to analysis of evidence.

**PATENTS**

**[3] Practice and procedure in Patent and Trademark Office — Board of Patent Appeals and Interferences — In general (§110.1101)**

**Patentability/Validity — Obviousness — Evidence of (§115.0906)**

**JUDICIAL PRACTICE AND PROCEDURE**

**Procedure — Judicial review — Standard of review — Patents (§410.4607.09)**

Patent examiners and Board of Patent Appeals and Interferences, in relying on what they assert to be general knowledge to negate patentability on ground of obviousness, must articulate that knowledge and place it on record, since examiners and board are presumed

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to act from viewpoint of person of ordinary skill in art in finding relevant facts, assessing significance of prior art, and making ultimate determination of obviousness issue; failure to do so is not consistent with either effective administrative procedure or effective judicial review, and board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth rationale on which it relies.

**[4] Procedure — Court of Appeals for the Federal Circuit (§410.03)**

**Procedure — Judicial review — Standard of review — Patents (§410.4607.09)**

U.S. Court of Appeals for the Federal Circuit will not consider proposed alternative grounds for affirming decision of Board of Patent Appeals and Interferences rejecting patent



application for obviousness, since alternative grounds were made at oral argument and constitute post hoc rationalization for agency action, consideration of which would deprive aggrieved party of fair opportunity to support its position.

### **Case History and Disposition**

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Sang-Su Lee, serial no. 07/631,210, directed to method of automatically displaying functions of video display device and demonstrating how to select and adjust functions to facilitate user response. Applicant appeals from decision upholding rejection of all claims for obviousness, and from reaffirmation of that decision on reconsideration. Reversed and remanded.

### **Attorneys:**

Richard H. Stern and Robert E. Bushnell, Washington, D.C., for Sang Su Lee.

Sidney O. Johnson Jr., associate solicitor, John M. Whealan, solicitor, and Raymond T. Chen, Maximilian R. Peterson, and Mark Nagumo, associate solicitors, Arlington, Va., for Director of U.S. Patent and Trademark Office.

### **Judge:**

Before Newman, Clevenger, and Dyk, circuit judges.

## **Opinion Text**

### **Opinion By:**

Newman, J.

Sang-Su Lee appeals the decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office, rejecting all of the claims of Lee's patent application Serial No. 07/631,210 entitled "Self-Diagnosis and Sequential-Display Method of Every Function." We vacate the Board's decision for failure to meet the adjudicative standards for review under the Administrative Procedure Act, and remand for further proceedings.

### ***The Prosecution Record***

Mr. Lee's patent application is directed to a method of automatically displaying the functions of a video display device and demonstrating how to select and adjust the functions in order to facilitate response by the user. The display and demonstration are achieved using computer-managed electronics, including pulse-width modulation and auto-fine-tuning pulses, in accordance with procedures described in the specification. Claim 10 is representative:

10. A method for automatically displaying functions of a video display device, comprising:  
determining if a demonstration mode is selected;  
if said demonstration mode is selected, automatically entering a picture adjustment mode

having a picture menu screen displaying a list of a plurality of picture functions; and automatically demonstrating selection and adjustment of individual ones of said plurality of picture functions. The examiner rejected the claims on the ground of obviousness, citing the combination of two references: United States Patent No. 4,626,892 to Nortrup, and the Thunderchopper Helicopter Operations Handbook for a video game. The Nortrup reference describes a television set having a menu display by which the user can adjust various picture and audio functions; however, the Nortrup display does not include a demonstration of how to adjust the functions. The Thunderchopper Handbook describes the Thunderchopper game's video display as having a "demonstration mode" showing how to play the game; however, the Thunderchopper Handbook makes no mention of the adjustment of picture or audio functions. The examiner held that it

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would have been obvious to a person of ordinary skill to combine the teachings of these references to produce the Lee system.

Lee appealed to the Board, arguing that the Thunderchopper Handbook simply explained how to play the Thunderchopper game, and that the prior art provided no teaching or motivation or suggestion to combine this reference with Nortrup, or that such combination would produce the Lee invention. The Board held that it was not necessary to present a source of a teaching, suggestion, or motivation to combine these references or their teachings. The Board stated:

The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference. Board op. at 7. The Board did not explain the "common knowledge and common sense" on which it relied for its conclusion that "the combined teachings of Nortrup and Thunderchopper would have suggested the claimed invention to those of ordinary skill in the art."

Lee filed a request for reconsideration, to which the Board responded after five years. The Board reaffirmed its decision, stating that the Thunderchopper Handbook was "analogous art" because it was "from the same field of endeavor" as the Lee invention, and that the field of video games was "reasonably pertinent" to the problem of adjusting display functions because the Thunderchopper Handbook showed video demonstrations of the "features" of the game. On the matter of motivation to combine the Nortrup and Thunderchopper references, the Board stated that "we maintain the position that we stated in our prior decision" and that the Examiner's Answer provided "a well reasoned discussion of why there is sufficient motivation to combine the references." The Board did not state the examiner's reasoning, and review of the Examiner's Answer reveals that the examiner merely stated that both the Nortrup function menu and the Thunderchopper demonstration mode are program features and that the Thunderchopper mode "is user-friendly" and it functions as a tutorial, and that it would have been obvious to combine them.

Lee had pressed the examiner during prosecution for some teaching, suggestion, or motivation in the prior art to select and combine the references that were relied on to show obviousness. The Examiner's Answer before the Board, plus a Supplemental Answer, stated that the combination of Thunderchopper with Nortrup "would have been obvious to one of

ordinary skill in the art since the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software,” and that “another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial.” The Board adopted the examiner's answer, stating “the examiner has provided a well reasoned discussion of these references and how the combination of these references meets the claim limitations.” However, perhaps recognizing that the examiner had provided insufficient justification to support combining the Nortrup and Thunderchopper references, the Board held, as stated *supra*, that a “specific hint or suggestion” of motivation to combine was not required.

This appeal followed.

### ***Judicial Review***

Tribunals of the PTO are governed by the Administrative Procedure Act, and their rulings receive the same judicial deference as do tribunals of other administrative agencies. *Dickinson v. Zurko*, 527 U.S. 150, 50 USPQ2d 1930 (1999). Thus on appeal we review a PTO Board's findings and conclusions in accordance with the following criteria:

5 U.S.C. §706(2) The reviewing court shall—

(2) hold unlawful and set aside agency actions, findings, and conclusions found to be—  
(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

\* \* \* \*

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute;

For judicial review to be meaningfully achieved within these strictures, the agency tribunal must present a full and reasoned explanation of its decision. The agency tribunal

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must set forth its findings and the grounds thereof, as supported by the agency record, and explain its application of the law to the found facts. The Court has often explained:

The Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of “reasoned decisionmaking.” Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational. *Allentown Mack Sales and Service, Inc. v. National Labor Relations Bd.*, 522 U.S. 359, 374 (1998) (citation omitted). This standard requires that the agency not only have reached a sound decision, but have articulated the reasons for that decision. The reviewing court is thus enabled to perform meaningful review within the strictures of the APA, for the court will have a basis on which to determine “whether the decision was based on the relevant factors and whether there has been a clear error of judgment.” *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971). Judicial review of a Board decision denying an application for patent is thus founded on the obligation of the agency to make the necessary findings and to provide an administrative record showing the evidence on which the findings are based, accompanied by the agency's reasoning in reaching its conclusions. *See In re Zurko*, 258

F.3d 1379, 1386, 59 USPQ2d 1693, 1697(Fed. Cir. 2001) (review is on the administrative record); *In re Gartside*, 203 F.3d 1305, 1314, 53 USPQ2d 1769, 1774(Fed. Cir. 2000) (Board decision "must be justified within the four corners of the record").

[1] As applied to the determination of patentability *vel non* when the issue is obviousness, "it is fundamental that rejections under 35 U.S.C. §103 must be based on evidence comprehended by the language of that section." *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775(Fed. Cir. 1983). The essential factual evidence on the issue of obviousness is set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008(Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors).

"The factual inquiry whether to combine references must be thorough and searching." *Id.* It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'") (quoting *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232(Fed. Cir. 1998)); *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617(Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637(Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600(Fed. Cir. 1988) ("teachings of references can be combined *only* if there is some suggestion or incentive to do so.") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933(Fed. Cir. 1984)).

The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317(Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459(Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination.

In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention

obvious.”); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references”).

[2] With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that “the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software” and that “another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial” do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to “[use] that which the inventor taught against its teacher.” *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

Deferential judicial review under the Administrative Procedure Act does not relieve the agency of its obligation to develop an evidentiary basis for its findings. To the contrary, the Administrative Procedure Act reinforces this obligation. *See, e.g., Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 43 (1983) (“the agency must examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’”) (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)); *Securities & Exchange Comm'n v. Chenery Corp.*, 318 U.S. 80, 94 (1943) (“The orderly function of the process of review requires that the grounds upon which the administrative agency acted are clearly disclosed and adequately sustained.”).

In its decision on Lee's patent application, the Board rejected the need for “any specific hint or suggestion in a particular reference” to support the combination of the Nortrup and Thunderchopper references. Omission of a relevant factor required by precedent is both legal error and arbitrary agency action. *See Motor Vehicle Manufacturers*, 463 U.S. at 43 (“an agency rule would be arbitrary and capricious if the agency ... entirely failed to consider an important aspect of the problem”); *Mullins v. Department of Energy*, 50 F.3d 990, 992 (Fed. Cir. 1995) (“It is well established that agencies have a duty to provide reviewing courts with a sufficient explanation for their decisions so that those decisions may be judged against the relevant statutory standards, and that failure to provide such an explanation is grounds for striking down the action.”). As discussed in *National Labor Relations Bd. v. Ashkenazy Property Mgt. Corp.*, 817 F.2d 74, 75 (9th Cir. 1987), an agency is “not free to refuse to follow circuit precedent.”

The foundation of the principle of judicial deference to the rulings of agency tribunals is

that the tribunal has specialized knowledge and expertise, such that when reasoned findings are made, a reviewing court may confidently defer to the agency's application of its knowledge in its area of expertise. Reasoned findings are critical to the performance of agency functions and judicial reliance on agency competence. *See Baltimore and Ohio R. R. Co. v. Aberdeen & Rockfish R. R. Co.*, 393 U.S. 87, 91-92 (1968) (absent reasoned findings based on substantial evidence effective review would become lost "in the haze of so-called expertise"). The "common knowledge and common sense" on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation. This court explained in *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697, that "deficiencies of the cited references cannot be remedied by

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the Board's general conclusions about what is 'basic knowledge' or 'common sense.'" The Board's findings must extend to all material facts and must be documented on the record, lest the "haze of so-called expertise" acquire insulation from accountability. "Common knowledge and common sense," even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority. *See Allentown Mack*, 522 U.S. at 376 ("Because reasoned decisionmaking demands it, and because the systemic consequences of any other approach are unacceptable, the Board must be required to apply in fact the clearly understood legal standards that it enunciates in principle ....")

The case on which the Board relies for its departure from precedent, *In re Bozek*, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969), indeed mentions "common knowledge and common sense," the CCPA stating that the phrase was used by the Solicitor to support the Board's conclusion of obviousness based on evidence in the prior art. *Bozek* did not hold that common knowledge and common sense are a substitute for evidence, but only that they may be applied to analysis of the evidence. *Bozek* did not hold that objective analysis, proper authority, and reasoned findings can be omitted from Board decisions. Nor does *Bozek*, after thirty-two years of isolation, outweigh the dozens of rulings of the Federal Circuit and the Court of Customs and Patent Appeals that determination of patentability must be based on evidence. This court has remarked, in *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1421 (Fed. Cir. 1999), that *Bozek's* reference to common knowledge "does not in and of itself make it so" absent evidence of such knowledge.

[3] The determination of patentability on the ground of unobviousness is ultimately one of judgment. In furtherance of the judgmental process, the patent examination procedure serves both to find, and to place on the official record, that which has been considered with respect to patentability. The patent examiner and the Board are deemed to have experience in the field of the invention; however, this experience, insofar as applied to the determination of patentability, must be applied from the viewpoint of "the person having ordinary skill in the art to which said subject matter pertains," the words of section 103. In finding the relevant facts, in assessing the significance of the prior art, and in making the ultimate determination of the issue of obviousness, the examiner and the Board are presumed to act from this viewpoint. Thus when they rely on what they assert to be general knowledge to negate

patentability, that knowledge must be articulated and placed on the record. The failure to do so is not consistent with either effective administrative procedure or effective judicial review. The board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.

### *Alternative Grounds*

[4] At oral argument the PTO Solicitor proposed alternative grounds on which this court might affirm the Board's decision. However, as stated in *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962), "courts may not accept appellate counsel's *post hoc* rationalization for agency action." Consideration by the appellate tribunal of new agency justifications deprives the aggrieved party of a fair opportunity to support its position; thus review of an administrative decision must be made on the grounds relied on by the agency. "If those grounds are inadequate or improper, the court is powerless to affirm the administrative action by substituting what it considers to be a more adequate or proper basis." *Securities & Exchange Comm'n v. Chenery Corp.*, 332 U.S. 194, 196 (1947). As reiterated in *Federal Election Comm'n v. Akins*, 524 U.S. 11, 25 (1998), "If a reviewing court agrees that the agency misinterpreted the law, it will set aside the agency's action and remand the case — even though the agency (like a new jury after a mistrial) might later, in the exercise of its lawful discretion, reach the same result for a different reason." Thus we decline to consider alternative grounds that might support the Board's decision.

### *Further Proceedings*

Sound administrative procedure requires that the agency apply the law in accordance with statute and precedent. The agency tribunal must make findings of relevant facts, and present its reasoning in sufficient detail that the court may conduct meaningful review of the agency action. In *Radio-Television News Directors Ass'n v. FCC*, 184 F.3d 872 (D.C.

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Cir. 1999) the court discussed the "fine line between agency reasoning that is 'so crippled as to be unlawful' and action that is potentially lawful but insufficiently or inappropriately explained," quoting from *Checkosky v. Securities & Exch. Comm'n*, 23 F.3d 452, 464 (D.C. Cir. 1994); the court explained that "[i]n the former circumstance, the court's practice is to vacate the agency's order, while in the latter the court frequently remands for further explanation (including discussion of the relevant factors and precedents) while withholding judgment on the lawfulness of the agency's proposed action." *Id.* at 888. In this case the Board's analysis of the Lee invention does not comport with either the legal requirements for determination of obviousness or with the requirements of the Administrative Procedure Act that the agency tribunal set forth the findings and explanations needed for "reasoned decisionmaking." Remand for these purposes is required. See *Overton Park*, 401 U.S. at 420-221 (remanding for further proceedings appropriate to the administrative process).

VACATED AND REMANDED

**Footnotes**

1 *Ex parte Lee*, No. 1994-1989 (Bd. Pat. App. & Int. Aug. 30, 1994; on reconsid'n Sept. 29, 1999).

**- End of Case -  
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OF AMENDMENT AND REQUEST FOR RECONSIDERATION

IN THE CLAIMS

--4. (Amended) The substrate according to claim 1, wherein the integrated circuit is a contactlessly readable [IC] integrated circuit which can be read in an inductive or capacitive manner.

8. (Amended) The substrate according to claim 1, wherein the integrated circuit forms part of an optical active element[, such as a foil, hologram or kinegram].--

26. (New).